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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/032,143	12/19/2001	Jason F. Hunzinger	09752-108001 / 00-043	3539

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HARNESS, DICKEY & PIERCE, P.L.C.
P.O. BOX 828
BLOOMFIELD HILLS, MI 48303

EXAMINER

LE, DANH C

ART UNIT	PAPER NUMBER
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2683

DATE MAILED: 05/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/032,143

Applicant(s)

HUNZINGER, JASON F.

Examiner

DANH C LE

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7, 14-20 and 25-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 14-20 and 25-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of claims 1-7, 14-20 and 25-32 in the reply filed on 3/3/05 is acknowledged.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. **Claims 1-3, 5-7, 14-16, 25, 26, 28, 30-32 are rejected under 35 U.S.C. 102(e) as being anticipated by Thomas (US 6,697,642).**

As to claim 1, Thomas teaches a method for beam steering (figure 6) comprising:
measuring (646) received signal characteristics of the beam;
providing feedback (629) based on the signal characteristics; and
adapting (640) the beam based feedback information.

As to claim 2, Thomas teaches method of Claim 1, further comprising using a one-bit punctured on a reverse link channel as feedback to indicate quality of a current signal compared a previous signal (col.15, line 51-col.16, line 17).

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As to claim 3, Thomas teaches the method of Claim 1, further comprising relative strength information as part of the transmitting feedback information (RSSI signal, col.8, lines 3-13).

As to claim 5, Thomas teaches the method of Claim 1, further comprising the feedback information on a pre-determined transmitting schedule (transmit periodically).

As to claim 6, Thomas teaches the method of Claim 1, further comprising transmitting feedback information when requested (col.10, lines 13-30).

As to claim 7, Thomas teaches the method of Claim 1, further comprising steering the beam to ensure a strong signal strength (col.10, lines 12-30).

As to claim 14, Thomas teaches a method of determining a beam transmission path (figure 12a-c) comprising:

transmitting a beam sweep through a sector;
determining signal conditions for the beam throughout the sweep; and
providing feedback based on the signal conditions indicating a preferred transmission path.

As to claim 15, Thomas teaches method of Claim 14, further comprising correlating the feedback with a sweep schedule (transmit periodically).

As to claim 16, Thomas teaches the method of Claim 14, wherein the feedback includes a relative strength indicator and further comparing relative strength indicator of the signal throughout the beam sweep (RSSI signal, col.8, lines 3-13 and col.12, lines 6-24).

As to claim 18, Thomas teaches the method of Claim 14, wherein the feedback comprises a single bit which indicates a quality of a current signal compared to a previous signal (col.15, line 51-col.16, line 17).

As to claim 19, Thomas teaches the method Claim 14, further comprising transmitting a plurality of beam sweeps, wherein a first the plurality of beam sweeps is for demodulation (col.8, lines 3-13).

As to claim 20, Thomas teaches the method of Claim 14, further comprising comparing a relative difference between feedback results to determine a preferred transmission path (col.12, lines 6-24).

As to claim 25, the claim is a system claim of claim 1; therefore, the claim is interpreted and rejected as set forth as claim 1.

As to claim 26, the claim is a system claim of claim 2; therefore, the claim is interpreted and rejected as set forth as claim 2.

As to claim 28, the claim is a system claim of claim 16; therefore, the claim is interpreted and rejected as set forth as claim 16.

As to claim 30, the claim is a system claim of claim 5; therefore, the claim is interpreted and rejected as set forth as claim 5.

As to claim 31, the claim is a system claim of claim 6; therefore, the claim is interpreted and rejected as set forth as claim 6.

As to claim 32, the claim is a system claim of claim 7; therefore, the claim is interpreted and rejected as set forth as claim 7.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 4 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thomas in view of Thomas (US 6,498,939).

As to claim 4, Thomas teaches the method of Claim 1, Thomas fails to further teach comprising the number of multipaths as part the transmitting feedback information. Thomas teaches the number of multipaths as part the transmitting feedback information (figure 5). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Thomas into the system of Thomas in order to optimize the signal strength.

As to claim 29, the claim is a system claim of claim 4; therefore, the claim is interpreted and rejected as set forth as claim 4.

4. Claims 17 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thomas in view of Tiedemann (US 6,396,867).

As to claim 17, Thomas teaches the method of Claim 14, wherein the feedback comprises a single bit, Thomas fails to teach the single bit indicates whether an earliest received signal is the strongest. Tiedemann teaches the single bit indicates whether an earliest received signal is the strongest (col.19, lines 13-29).). Therefore, it would

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have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Thomas into the system of Thomas in order to adjust the select forward link power control bits.

As to claim 27, the claim is a system claim of claim 17; therefore, the claim is interpreted and rejected as set forth as claim 17.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

A. Guo (US 2004/0014429) teaches adaptive beam forming using a feedback signal.

B. Bea (US 2001/0006898) teaches method and apparatus for forwarding and reserve power control in mobile communication system.

C. Park et al (US 6,519,473) teaches forwarding power control device and method for mobile communication system supporting transmission diversity.

D. Ylitalo et al (US 6,671,499) teaches method for directing antenna beam and transceiver in mobile communication system.

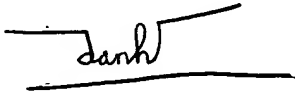
E. Briley (US 6,456,610) teaches TDM/TDMA wireless telecommunication system with electronic scanning antenna.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DANH C LE whose telephone number is 571-272-7868. The examiner can normally be reached on 8:00AM-5:00PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, WILLIAM TROST can be reached on 571-272-7872. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read "danh", is written over a horizontal line.

April 29, 2004.

DANH CONG LE
PATENT EXAMINER